

MARKET COUPLING THE NEED OF THE HOUR

Can Market Coupling make multiple Power Exchanges competitive? Anil V Kale throws light on the issue.

The Power market structure envisages the presence of multiple Power exchanges (PXs) in the country. Two PXs have been in existence from 2008 and a third PX that received approval from Central Electricity Regulatory Commission (CERC) started functioning from July 2022.

The PXs have been conceived as independent, voluntary, and competitive market platforms to efficiently serve all participants without concentration of market power and transactions in only one.

Market coupling means the process where the collected Orders from all the Power exchanges are aggregated together and then matched to discover a uniform market clearing price. In this process, the market coupling operator takes the Order books from all the power exchanges, how many ever there might be, and combines these buy and sell Orders to develop one set of prices for the entire country.

Through this process, the transmission allocation can happen after accounting for all power flows netted within each bidding zone thereby leading to the most efficient allocation of transmission.

Devoid of market coupling, transmission allocation taking place separately on each exchange creates sub-optimal outcomes because in one exchange, you might have required a power flow from one bidding zone to another, whereas another exchange might have asked for an opposite flow based on their order book, and, in the third exchange, it might be completely different. An absolute addition of requirements emanating separately from the exchanges would lead to far more requirements than if these were netted within the bidding zones by

combining the order books of all the exchanges.

In essence, by aggregating individual requirement, a situation arises wherein new requirements for transmission capacity get created when there was no such requirement, if it was netted in each zone.

The enabling regulation in this regard has already been brought in through the Power Market Regulations, 2021. The implementation of this is yet to be done though. Most market participants have, at various forums, voiced the need to implement market coupling, considering the significant beneficial impact on the entire power market.



“Market Coupling can help to create a more integrated and efficient Indian electricity market and support the growth of multiple power exchanges by increasing market liquidity, promoting price convergence, enhancing competition, and optimal utilisation of transmission capacity.”

ANIL V KALE,
AVP, Strategy and Regulatory at Power Exchange India Limited.

With multiple segments in the Day Ahead Market (DAM) in the form of Green DAM and Conventional DAM and recently approved High Price-DAM segment, and with three power exchanges operating, for each day, potentially 864 different prices can be discovered, leading to substantial fragmentation and confusion in the market. It is, therefore, imperative now that Market Coupling is implemented at the earliest for the benefits of the market, its participants, and for optimal utilization of national infrastructure.

PXIL is keen that steps are initiated to introduce market coupling in Collective transactions, i.e., G-DAM, DAM, recently introduced HP-DAM, and RTM.

International precedence

In the EU region, the market coupling mechanism has demonstrated greater efficiency in transmission allocation as well as in fostering a competitive and efficient power market in all the countries. It has led to uniform price across several participating countries in Europe – as of December 2022, nearly 27 countries are part of the

coupled market, leading to significant beneficial outcomes for the end-consumers, e.g., increase the overall efficiency of trading by promoting effective competition, increasing liquidity, and enabling a more efficient utilisation of the generation resources across EU region. In countries where only one PX was working earlier, they now have multiple PXs operating successfully.

Ancillary Services Regulation 2022 – Precursor to introduction of Market Coupling

We wish to inform that initial steps towards market coupling is being implemented by Hon'ble CERC, while introducing Ancillary Services Market wherein from 1st May 2023, the Tertiary Reserve Ancillary Services (TRAS) in Day Ahead Ancillary Services Contract and Real Time Ancillary Services Contract will require the Power exchanges to collect bids for TRAS participants and share the same with National Load Despatch Centre (NLDC). NLDC shall then collect Orders received from multiple PXs, discover price, and despatch such Ancillary services to meet grid requirement.

Further, in TRAS, the process of combining Orders received from multiple PXs will provide impetus to maintain adequate reserves in the grid, provide adequate safety and security to the grid, and enable NLDC to deploy such capacities/Reserve services for smooth operation of the power system.

Implementation of TRAS Contracts on power exchange platform with responsibility of clearance, despatch, and settlement being handled by NLDC, would provide valuable insights on constructing and implementing the concept of 'market coupling' that has become a necessity for shaping power markets to grow

in a transparent and competitive manner without any distortions.

To conclude, market coupling can support multiple power exchanges in several ways:

Increase Market Liquidity: By connecting different power markets, market coupling increases the number of buyers and sellers, which increases market liquidity. This makes it easier for power exchanges to match supply and demand and reduces the risk of market manipulation.

Promote Price Convergence: Market coupling helps to ensure that electricity prices across different markets are more closely aligned. This can lead to a more efficient allocation of resources, as producers will be incentivized to sell their electricity to the market where prices are highest.

Enhance Competition: Market coupling promotes competition between exchanges. This can lead to lower transaction costs and greater efficiency in the electricity market.

Reduce Congestion: Market coupling can help to reduce congestion in the power grid by allowing electricity to flow from regions with excess supply to regions with high demand. This can help to ensure that electricity is delivered where it is needed most and reduce the risk of power outages or blackouts.

Overall, market coupling can help to create a more integrated and efficient Indian electricity market and support the growth of multiple power exchanges by increasing market liquidity, promoting price convergence, enhancing competition, and optimal utilisation of transmission capacity.



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